SPREADSHEET ACCOUNTING I
P10 PAYROLL REGISTER (PR)

INTRODUCTION

This problem develops an automated and reusable payroll register that will calculate the deductions and net pay (take-home pay) for various gross pay amounts. The excel IF function is the feature that will be used to accommodate the different conditions when calculating the Social Security taxes.

All of the formulas must be completed before any of the author designated formulas will become active. Unprotect the worksheet if you like to see the author's formulas. The rest of the calculations will then fill out automatically.

Prepare the model in the following order:
- Insert Formulas 1-6
- Enter the cumulative gross pay to October 31 for Jones (Cell I13) beginning with $85,000, then change to $105,000 and $125,000 later in the problem

---

EMPLOYEE PAY DEDUCTIONS

- Federal Income Tax Withholding

    (1) Depends on total earnings, marital status, and the number of withholding allowances claimed.
    (2) Circular E, Employer's Tax Guide, (IRS Publication 15) contains the withholding tables for Federal Income, Social Security, and Medicare taxes.
    (3) No need to use this publication for P10 since the FIT withholding amounts are given in the problem.

- State Income Tax Withholding

    (1) Some states have an income tax determined using withholding tables or a fixed percent of the federal income tax withholding.
    (2) The employees in P10 have no state income tax withholding.

- Federal Insurance Contributions Act (FICA) Taxes

    (1) Social Security taxes: Both employees and employers pay Social Security taxes. The 2011 employee tax rate is 4.2% and the 2011 employer tax rate is 6.2%. The wage base limit is $106,800 for each the employee and employer, unchanged from 2010.
    (2) Medicare taxes: Both employees and employers pay 1.45% on **all** earnings with no wage base limit.

Requirements 1-5

The $106,800 limit on Social Security taxes can create three different conditions as utilized in Requirements 1 and 3 of P10 (pages 66 and 67):

A. <u>Condition I (Full tax is due - the entire current period earnings amount is subject to Social Security tax)</u>
   An employee (paid monthly) has cumulative earnings of $85,000 prior to the current payroll period and earns $9,000 during the current pay period. **The amount of Social Security taxes for the month would be $378 ($9,000 x 4.2%) since the employee has not approached or reached the $106,800 limit.**
B. <u>Condition II (Some tax is due - a portion of the current period earnings amount is subject to Social Security tax)</u>
   An employee (paid monthly) has cumulative earnings of $105,000 prior to the current payroll period and earns $9,000 during the current pay period. The amount of Social Security taxes for the month would be $75.60 (($106,800 – $105,000) or $1,800 x 4.2%). **Note that the $1,800 taxable amount increases the earnings to the maximum wage base of $106,800 and therefore no additional tax is withheld on the remaining $7,200 of the current period pay.**
C. <u>Condition III (No tax is due - no portion of the current period earnings amount is subject to Social Security tax)</u> An employee (paid monthly) has cumulative earnings of $125,000 prior to the current payroll period and earns $9,000 during the current pay period. **The amount of Social Security taxes for the month would be 0 since the employee has already exceeded the maximum wage base limit of $106,800.**

Developing a formula in a payroll register that can accommodate all three situations, as described above, requires the use of the IF function. Let's review the syntax for the IF function before proceeding with FORMULA1.

Generally, the IF function can be described in the following manner:

$$=\textbf{IF}(\textbf{logical\_test},\textbf{value\_if\_true},\textbf{value\_if\_false})$$

This function allows the program to choose one of two inputs to enter in a cell. If the specified condition is true, input x will be put in the cell. If the condition is false, input y will be entered in the cell. An example of how this function can be used is as follows:
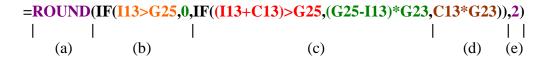
Active Cell C2: =IF(A8=2,7,9)

This formula states that if the value is cell A8 is equal to 2, enter a 7 in the cell C2; if the value in cell A8 is not equal to 2, enter a 9 in cell C2.

The IF function can be expanded to include various operators including =, >, <, <=, >=, <>, AND, OR, and NOT. The number of conditions can also be expanded and be combined with other functions such as ROUND.`

FORMULA1 and FORMULA2:

FORMULA1 will have to be prepared in the problem and is given below. Note that the only difference between this formula and FORMULA2, given on page 67 of the applications textbook, is the cell references change from C14 to C13 and I14 to I13 because it is used on a different row.

C13 Gross pay for the current period
I13 Cumulative gross pay prior to the current pay period
G25 Maximum amount subject to the FICA tax
G23 FICA tax rate

=ROUND(IF(I13>G25,0,IF((I13+C13)>G25,(G25-I13)*G23,C13*G23)),2)
```
|       |       |              |                      |       | | |
  (a)     (b)        (c)                                 (d)    (e)
```

The meaning of each part of the formula is:

(a)   Begins with a function which rounds to a specific number of decimal places as specified at the end of the statement as 2 for the nearest cents. The syntax for the ROUND function is ROUND(number, num_digits). The number of decimal places specified is placed at the end of the formula which is described in Part (e).

(b)   This is the first condition of the IF statement. This says if I13 is greater than G25, then place 0 in the cell. In other words, since the employee is already over the maximum amount on which Social Security tax is withheld, he or she is not taxed on the gross pay for the current period and a 0 will be placed in the cell. If the cumulative gross pay prior to the current pay period is not greater than the maximum amount subject to the FICA tax, then proceed to the next IF statement.

(c)   This is the second condition. If I13 plus C13 adds up to more than the maximum amount for Social Security (G25), then only tax the amount up to the limit and do not tax the amount above the limit. The amount which is subject to the tax is calculated by taking the difference between G25 and I13. This difference is then multiplied by the tax rate found in G23.

(d)   This is the third condition and the result when the test of the second IF statement is false. If I13 plus C13 does not exceed the maximum amount for Social Security, then multiply the entire current period gross pay (C13) by the FICA tax rate (G23).

(e)   This specifies the number of decimal places as discussed in Item (a). The formula rounds to **2** places.

3

FORMULA3 and FORMULA6:

These formulas are simple subtraction and multiplication formulas, and similar to formulas that we have prepared in past problems. Remember to ROUND the result of the multiplication in FORMULA3. FORMULA6 needs no rounding since it is only using addition and subtraction.

FORMULA4 and FORMULA5

A simple example of the IF function is used for both of these formulas which can be used to calculate the union dues. FORMULA4 inserts $25 in cell G13 for a union employee or 0 in cell G13 for a nonunion employee.

$$=IF(B13="Y",25,0)$$

FORMULA5 is similar except cell B13 is replaced with B14, and entered in cell G14. When entering these formulas, be sure that you type it exactly as shown. Do not leave any spaces between the numbers or symbols.

Requirement 6

P10, requirement 6, is to "prepare the journal entry to record the November payroll for all employees assuming that the payroll is paid on November 30 and that Jones's cumulative gross pay (cell I13) is $85,000". Use the data in the PR4 file to prepare the following journal entry.

The journal entry to record the employee's pay deductions by the employer is specified in the following:

    Salaries expense
        Federal income tax payable
        Social security taxes payable
        Medicare taxes payable
        Union dues payable
        Cash

Requirement 7 (first part)

P10, Requirement 7, is to "prepare the journal entry as of November 30 to record the employer's payroll taxes for November. Also prepare the journal entries to record the payment of <u>all</u> payroll taxes and union dues, assuming that they are all due on December 15".

EMPLOYER'S PAYROLL TAX CONTRIBUTIONS

- Federal Insurance Contributions Act (FICA) Taxes

    The employer also pays FICA tax, both Social Security and Medicare. The recording of the payment with the federal tax deposit coupon for the employer portion is similar to the employee's as presented on the preceding page.

- Unemployment Taxes

    (1) State unemployment tax (SUTA) is levied on employers in certain states usually at a specific tax rate up to a limit of gross pay. The proceeds are used to pay subsistence benefits to unemployed workers. P10 uses a tax rate of 2.7% applied on the first $7,000 earned.
    (2) Federal unemployment tax (FUTA) is also paid only by the employer at a specific rate up to a limit of gross pay. P10 uses a tax rate of .8% on the first $7,000 earned.

    Employers submit unemployment tax quarterly and prepare an annual federal unemployment tax return, Form 940, not later than January 31 following the close of the calendar year. Form 940 compares the employer's quarterly deposits to the computed unemployment tax and specifies any tax due or overpaid.

The journal entry to record the <u>employer's share</u> of the FICA taxes and the employer's state and federal unemployment taxes are specified in the following:

    Payroll tax expense
        Social security taxes payable
        Medicare taxes payable
        Federal unemployment taxes payable
        State unemployment taxes payable

5

Requirement 7 (second part)

P10, Requirement 7, is to "prepare the journal entry as of November 30 to record the employer's payroll taxes for November. Also prepare the journal entries to record the payment of all payroll taxes and union dues, assuming that they are all due on December 15".

The compound journal entry to record the payments for all payroll taxes and union dues is presented below. These payments would usually not be recorded as one entry since the payments are made to different government agencies, at different times, and with different tax forms. For example, the federal income tax and FICA would include the federal tax deposit coupon and the quarterly Form 941. **The below entry will include both the employer's and employee's portions for the Social Security and Medicare taxes**.

    Federal income tax payable
    Social security taxes payable (see above comment)
    Medicare taxes payable (see above comment)
    Federal unemployment taxes payable
    State unemployment taxes payable
    Union dues payable
        Cash

Requirement 8

P10, What-If Analysis Requirement 8, page 68. Replace the data in cells G22-G25 with the following information. The cumulative gross pay (cell I13) for Jones should be $85,000. In the past, the tax rates remain unchanged but the wages subject to FICA usually increased each year. Historically, in 2007 the FICA wage base limit was $97,500, $102,000 in 2008, and $106,800 in 2009. Recently, because of economic conditions, the wage base limit has remained the same from 2009 through 2011 and the tax rate for the employee withholding portion of social security has decreased from 6.20% to 4.20%. The employer withholding portion of social security has remained the same at 6.20%. The medicare tax rate for 2011 has also remained unchanged.

Tax Information	
Current Year	2011
Social security taxes - employee	4.20%
Social security taxes – employer	6.20%
Medicare tax rate	1.45%
FICA tax maximum income	$106,800

6

Requirement 9 (Chart Analysis)

The chart supplied by the author in Requirement 9 requires an understanding of the relative magnitude and limitations of the employer's payroll contributions (not the employee pay deductions). Use the summary below to determine the smallest to largest employer contributions and noting any limitations. You can then interpret the chart and label Series 1, 2, 3, and 4 on page 69. Observe not only the height of the lines on the chart, but also the trend of the line for months 8 through 12.

Employer's Payroll Tax Contributions		
FUTA		.8% on the first $7,000 earnings, or up to $56 of tax
SUTA		2.7% on first $7,000 earnings, or up to $189 of tax
FICA	Medicare	1.45% on all earnings
FICA	SS	6.2% on all earnings up to $106,800, or up to $6,621.60 of tax

Worksheet Tickler

The third sentence should state "Add the new employee to the PR4 worksheet (not the PR5 worksheet as printed in the textbook) and include all standard withholding rates in computing net pay". Zuckerman should be added as the last employee in the payroll register. Copy the applicable formulas and make adjustments to the summation ranges.

Chart Tickler

A 3-D pie chart is required where the total pie shows the makeup of gross pay for Smith. The biggest piece of the pie is net pay with the other pieces of the pie for employee deductions of income taxes, Social Security, and union dues.

ADDITIONAL RESOURCES

Internal Revenue Service www.irs.ustreas.gov – Forms and Publications, Publication 15, Circular E

Franchise Tax Board www.ftb.ca.gov – Forms and Publications, California 540 & 540A 2001 Personal Income Tax Booklet

Employment Development Department www.edd.cahwnet.gov – Forms and Publications, Employment Tax Rates and Withholding Schedules